

Timber Billions *of the* Pacific Northwest

TIMBER
BILLIONS
of the
PACIFIC NORTHWEST

Other publications in this series, already issued, are listed below. Copies of these may be obtained from any one of the officials named on page 4.

THE LAND OF OPPORTUNITY NOW
A brief survey of agricultural and industrial resources, developments and opportunities in the Pacific Northwest.

THROUGH THE AMERICAN WONDER-
LAND
A description of the scenic and industrial attractions of the Pacific Northwest.

A BUSINESS OF YOUR OWN IN
POULTRYLAND
The story of the great poultry industry of the Pacific Northwest and the opportunities it offers.

TIMBER
BILLIONS
of the
PACIFIC NORTHWEST

1923

Published by

CHICAGO BURLINGTON & QUINCY RAILROAD
GREAT NORTHERN RAILWAY
NORTHERN PACIFIC RAILWAY

A TREMENDOUS growth in the lumber industry of the Pacific Northwest during the next few years seems inevitable. Timber supplies are falling off in every eastern region. The Pacific Northwest, with one-half the forest resources of the country, must shortly become the primary source of timber.

To tell the story of this great industry and the vast resources that assure its greater future is the purpose of this book. A technical discussion is not attempted; the effort rather is to show what this giant business means to every other business—the mighty power of a tremendous natural resource in building this new empire of the Pacific Northwest.

This is the fourth in a series of publications issued jointly by the Burlington, Northern Pacific, and Great Northern railways as part of a national campaign to stimulate interest in the Pacific Northwest—Montana, Wyoming, Idaho, Washington and Oregon.

Other publications in this series, listed in the front of this book, and still others yet to be published, describe industrial, farming, and living conditions and opportunities and the wonderful scenic attractions of the Pacific Northwest. Copies of any of these publications now issued and information on any subject related to the Pacific Northwest may be obtained from one of the officials below:

P. S. EUSTIS, *Passenger Traffic Manager*
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T I M B E R !

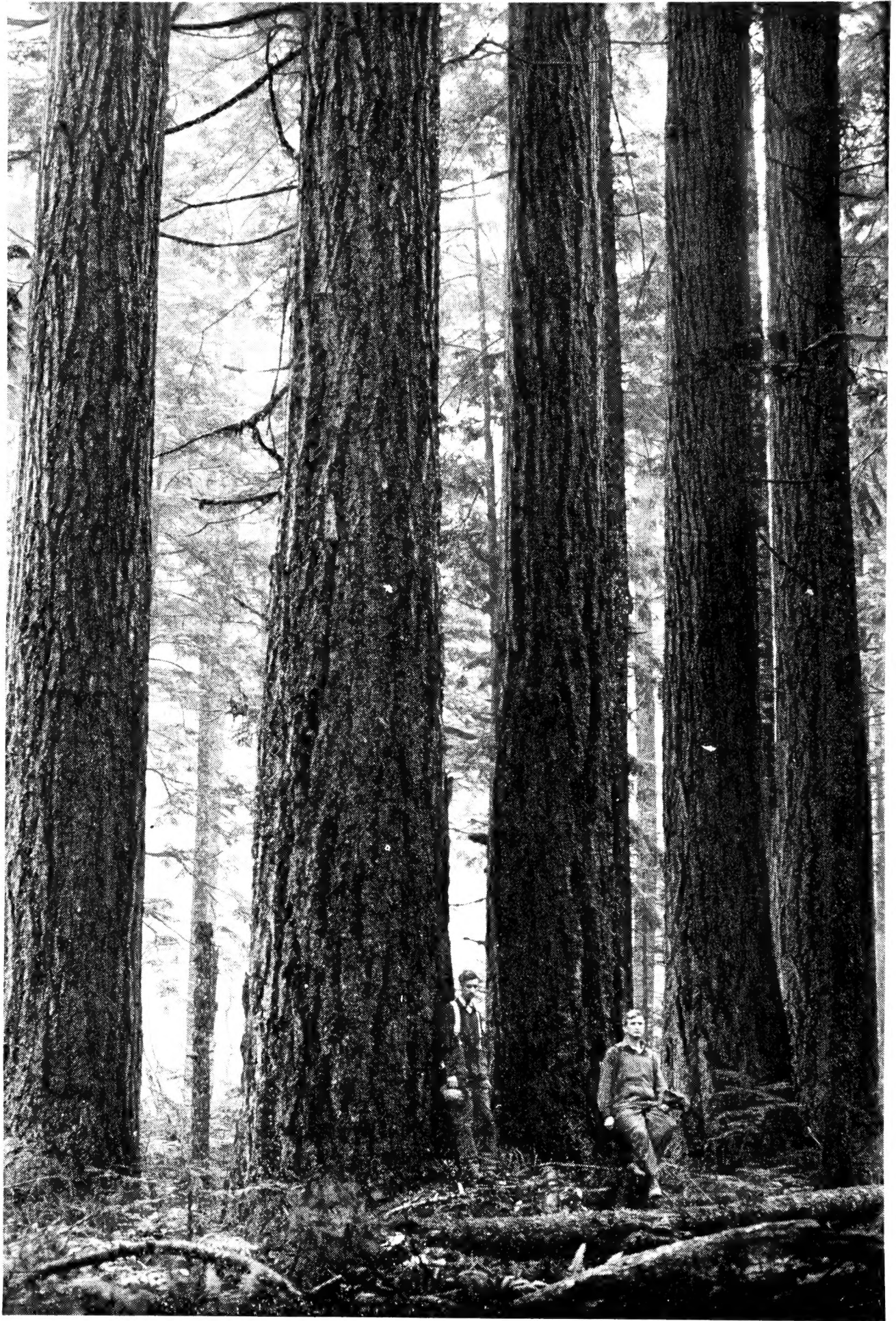
Timber!

TWO axmen run as they shout the warning; a forest giant snaps its last supporting sinews, moves with majestic grace as the topmost branches soar through sky, gathers momentum quickly and falls with a swelling roar and crash. Two hundred feet of straight timber. All the years since Columbus are recorded in its concentric rings—its log of life—and the last one measures twenty-four feet! A great historian is dead. But the life of service has just begun. Three more families can have homes.

Timber!

On a thousand hills, from a thousand slopes, comes the woodcutter's cry. A battle cry! The nation's great forest reserve is going into action. An industrial army is on the march. From the timberlands of the East, from the pine regions of the South, from the Great Lakes region comes this army of might and men to the virgin forests of the Pacific Northwest. Wartime destruction and peacetime construction both have swelled its ranks. Great sawmills are unlimbered. Hundreds of logging camps are pushing back the forest frontier. Cities with a permanent economic support in lumber are springing up. One hundred and fifty thousand men in camps and mills already are producing nearly one-third the nation's lumber cut. By trainloads and shiploads the great

TIMBER BILLIONS



Growing since the days of Columbus, the giant Douglas firs of the Pacific Northwest commonly measure six feet in diameter—sometimes twice that size—and tower 200 to 250 feet.

forest crop, worth \$350,000,000 a year, moves eastward throughout our own country and to foreign lands. And the world, in a frenzy of belated building, calls for more!

Timber!

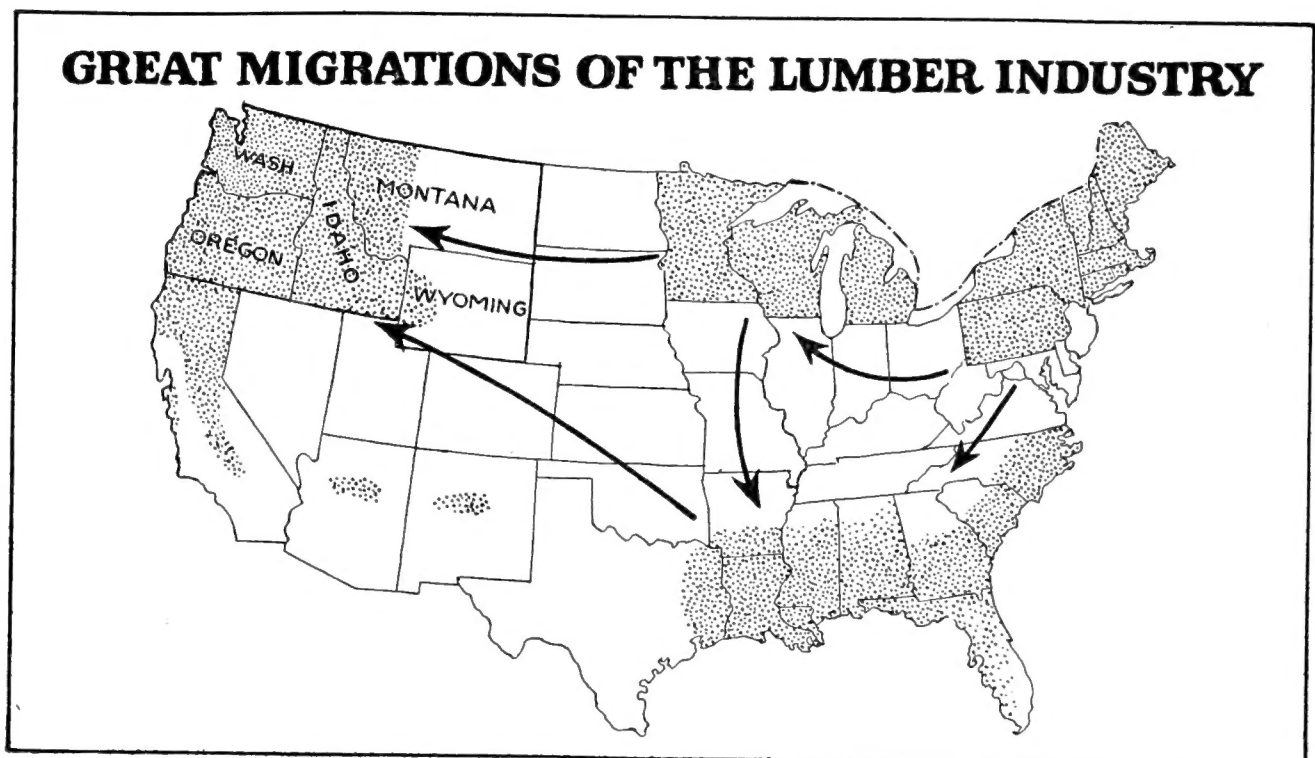
The world demands more of it to build and grow. The Pacific Northwest can supply it. On the slopes of the Cascades, the Coast Range and the Olympics of Oregon and Washington, in the Coeur d'Alenes, the Bitterroots and Rockies of Idaho, Montana and Wyoming is *half the timber in the United States*. Here is America's great forest reserve. A vast storehouse of natural wealth measuring 970 billion board feet! If these great forests should now stop growing, and cutting should proceed at the present rate, they would yield 10 billion feet worth \$350,000,000 every year for 100 years. But growth continues at a rate that adds to the supply more than half the amount annually cut. And cutting must shortly increase to two or three times the present amount, in the opinion of the United States Forest Service. Experts agree that within the next fifteen years the burden of supplying the bulk of the country's needs for lumber will rest upon the Pacific Northwest.

What a great Tomorrow for the Pacific Northwest! No wonder it is growing at a rate *five times as fast as the nation*. No wonder farsighted men are building there a great new empire of industry. Lumbering itself, based on a vast natural wealth that is secure, almost would support it. But other great industries are keeping pace with lumber. Shipping has had a tremendous growth, increasing in volume and value several times in the last two decades. The great ports of the Pacific Northwest now are the principal western gateway to an increasing trade with three-fourths of the world's population. Immense oil fields, coal and mineral mines in Montana, Wyoming and Idaho are yielding a million dollars a day in new wealth. A big fishing industry centers in *the world's largest fisheries* of Washington, Alaska and Oregon; huge water-power plants more and

TIMBER BILLIONS

more are utilizing *one-half the water-power resources of the nation*, and, with the cheap power offered, are stimulating manufacturing in every field. And basic to all is a strong, sturdy agriculture famed for its high production and sound marketing—an industry that is destined to expand enormously in the next few years.

The Pacific Northwest is no longer the land of the pioneers. For it is conquered and subdued and equipped—a great modern country. And yet what has been

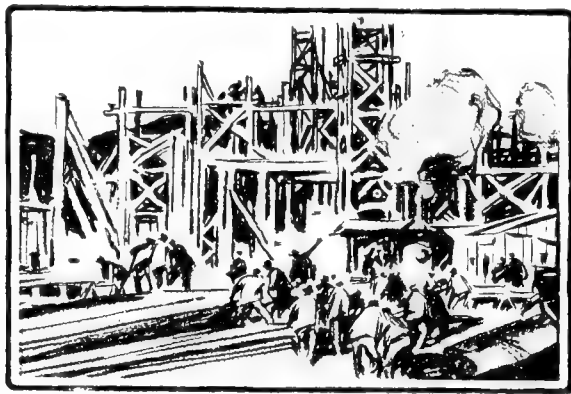


By successive migrations, America's great lumber industry has moved from the Eastern States to the Great Lakes region, to the South, and now to the Pacific Northwest.

done is only a preparation for far greater things ahead. A vaster treasure trove of natural riches is yet to be unlocked.

On the horizon of the Pacific Northwest men with vision read, in letters of fire, a single word—Opportunity.





A COLOSSUS MOVES WEST

AMERICA has an amazing appetite for wood. We use two-fifths of the total world consumption. Our annual ration is 40 billion feet of lumber, 87 million railroad ties, 5½ million cords of pulp wood, and 110 million cords of fuel. We have \$5,000,000,000 invested in plants that make lumber, wood products and paper. These 75,000 establishments employ 1,350,000 workers. Nor is that all. Every industry, no matter what, is dependent in part on the forest.

Wherewithal shall this colossus be fed? The timbered regions of the eastern states, of the Great Lakes region, of the South, which have borne the brunt of our timber demands, must have support. They cannot supply the increasing demands. The great forest reserve of the Pacific Northwest must become the nation's primary source of supply.

The lumber colossus turns to the West. It will not be disappointed in the prospect—nearly 1,000 billion feet of virgin timber in Oregon, Washington, Idaho, Montana and Wyoming! Half the forest resources of the United States! Lumber experts and logging engineers are busy with plans. New plants are being built, and established mills enlarged. Logging railroads are extending and new ones penetrate virgin forests.

Operators are assembling vast quantities of equipment. Much of it must be new and adapted to the big

TIMBER BILLIONS



Master of logging ceremonies is the powerful "donkey" engine. It "snakes out" the mighty logs from deep canyons, lifts them gently to flat cars or tosses them on slides that connect with water routes to the mills.

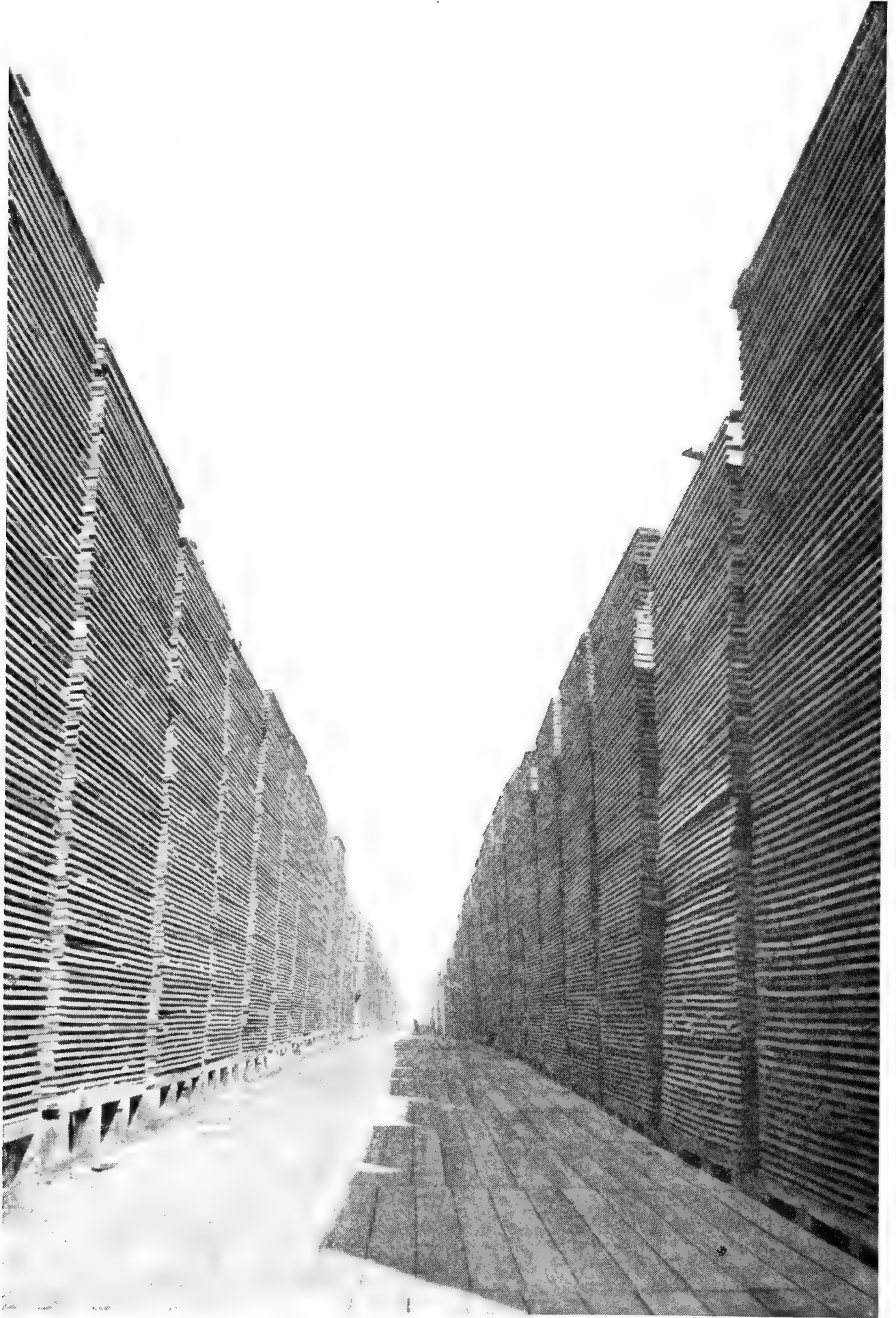
scale of operations necessary in handling the larger trees in this region. Heavy machinery must take the place of man power and horse power in many operations—giant cranes, loaders, donkey engines in the logging camps, larger saws, carriages, and other equipment in the mills.

Big Business Ahead

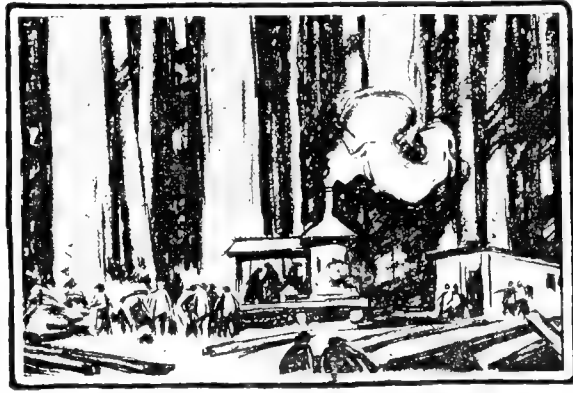
Westward the course of empire, and westward now the course of lumbering! Big business is ahead. The lumber industry of the Pacific Northwest, already grown gigantic, must double and triple its output in the next 15 years if the nation's needs are to be supplied. The task is stupendous. A production of 10 billion feet—nearly one-third the annual cut in the United States—must increase to 30 billion. The army of 150,000 workers must be expanded to nearly half a million. Instead of \$350,000,000 the forests of the Pacific Northwest must shortly return \$1,000,000,000 a year.

Already Washington is leading all the states in lumber production. Her 300 logging camps and 800 sawmills are turning out $5\frac{1}{2}$ billion board feet of lumber. Giant mills there produce two-thirds of all our shingles. With Oregon, it makes $6\frac{1}{2}$ billion shingles a year. Oregon's lumber production amounts to $3\frac{1}{3}$ billion feet. With Washington it produces 140,000 tons of news-print paper. There is room in the Pacific Northwest for not less than sixteen additional pulp and paper mills with a combined yearly capacity of 800,000 tons. The United States Forest Service believes the Pacific Northwest can produce 1,500,000 tons annually on a perpetual basis. Idaho is producing 900 million feet of lumber, Montana 400 million and Wyoming, where the chief forest industry is the production of railroad ties, turns out $8\frac{1}{2}$ million feet. Within the last few years western timber has assumed a dominating place in the principal markets of the lake states and has largely replaced southern pine at many consuming points in the central states.

TIMBER BILLIONS



Canyons of piled lumber surround the giant mills which now produce one-third of America's timber. Still in the vast forests of the Pacific Northwest is enough to build our 16,000,000 frame houses three times over.



A THOUSAND BILLION FEET

JOHN BROWN, average American, isn't much interested in a thousand billion board feet. His feeling is that this is entirely too many feet to think about. Billions of anything are always dizzying—even to Americans. It doesn't help matters much if John happens to know that a board foot is a piece of lumber a foot square and an inch thick.

But here is this same John Brown, and he's building a new house. He has just paid for several thousand feet of lumber—20,833, to be exact—and he knows what every foot of it cost not only, but he speaks fluently of siding and two-by-fours and ceiling and flooring. Here is quite a different person. He follows us now when we tell him that in the Pacific Northwest there is enough timber to build 48,000,000 houses like his—three times as many houses as there are now in all the United States. That, in figures somewhat less staggering, is the meaning of one thousand billion board feet.

One thousand billion board feet! The accumulated forest wealth of centuries is now unlocked. Normally we build 400,000 houses a year in the United States. If forest growth stopped, this vast supply would provide for all the new homes in the United States at the present building rate for 120 years. But these forests annually reproduce more than half the amount now cut. And with more and more attention being given to reforestation and fire protection this rate may be increased. Oregon

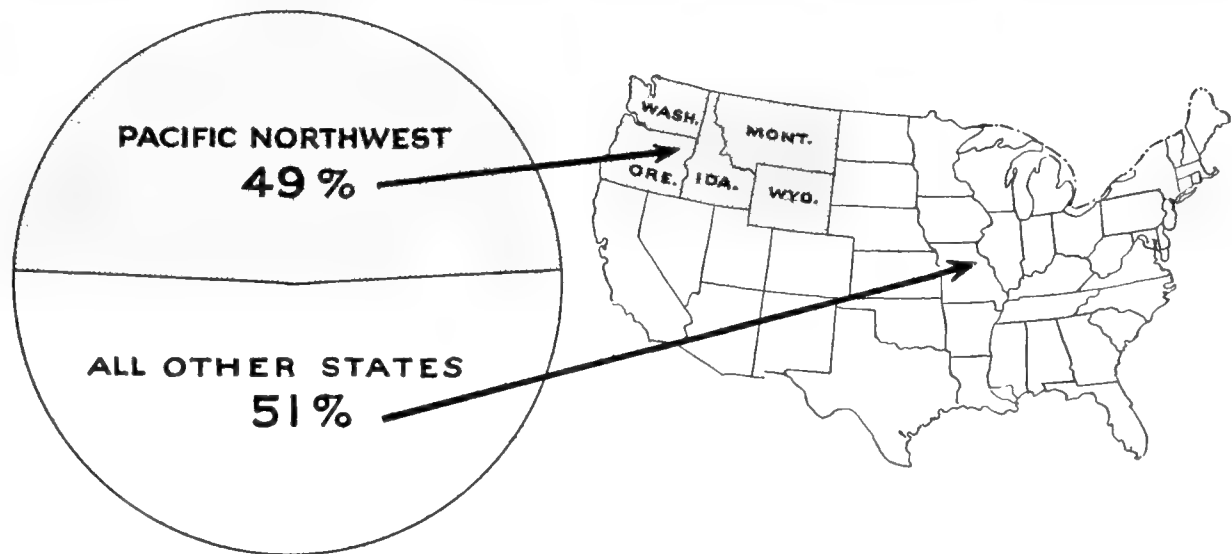
TIMBER BILLIONS



Great as its lumber industry is now, the Pacific Northwest must double and perhaps treble its production in the next fifteen years, Government experts believe.

THE PACIFIC NORTHWEST

TIMBER RESOURCES OF THE UNITED STATES



In the five states of the Pacific Northwest nearly one-half the timber resources of the United States are concentrated.

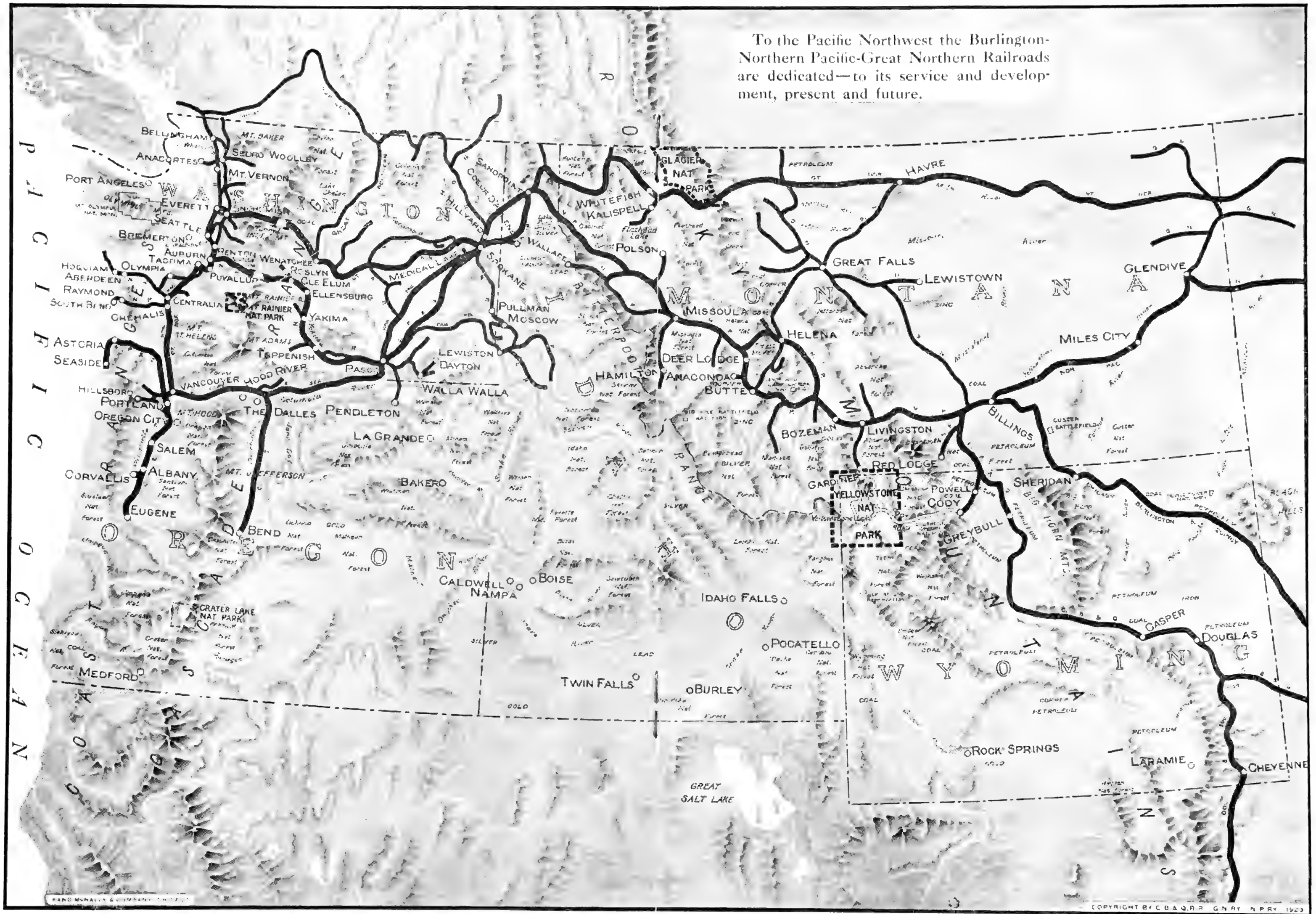
leads all the states with 480 billion board feet; Washington is next with 335 billion, Idaho had 85 billion, Montana 60 billion and Wyoming 10 billion. These are the amounts of timber now standing in the five states.

The Douglas Fir Giants

Let us look for a moment at these vast areas of timber wealth, the most magnificent forests in the world. First, the most wonderful forest of a single type—the giant Douglas firs of western Oregon and western Washington. In this almost unbroken stand, 350 miles long and 100 miles wide, is more than half the timber of the Pacific Northwest—558 billion feet. These are the “big trees” of the Pacific Northwest. Trees six feet in diameter and 200 feet high are common. Long timbers for ship and car construction, and highly finished boards for interior uses of many kinds are obtained from these mammoth trees. The products of the Douglas fir forests are shipped by rail and water to many parts of this country and of the world.

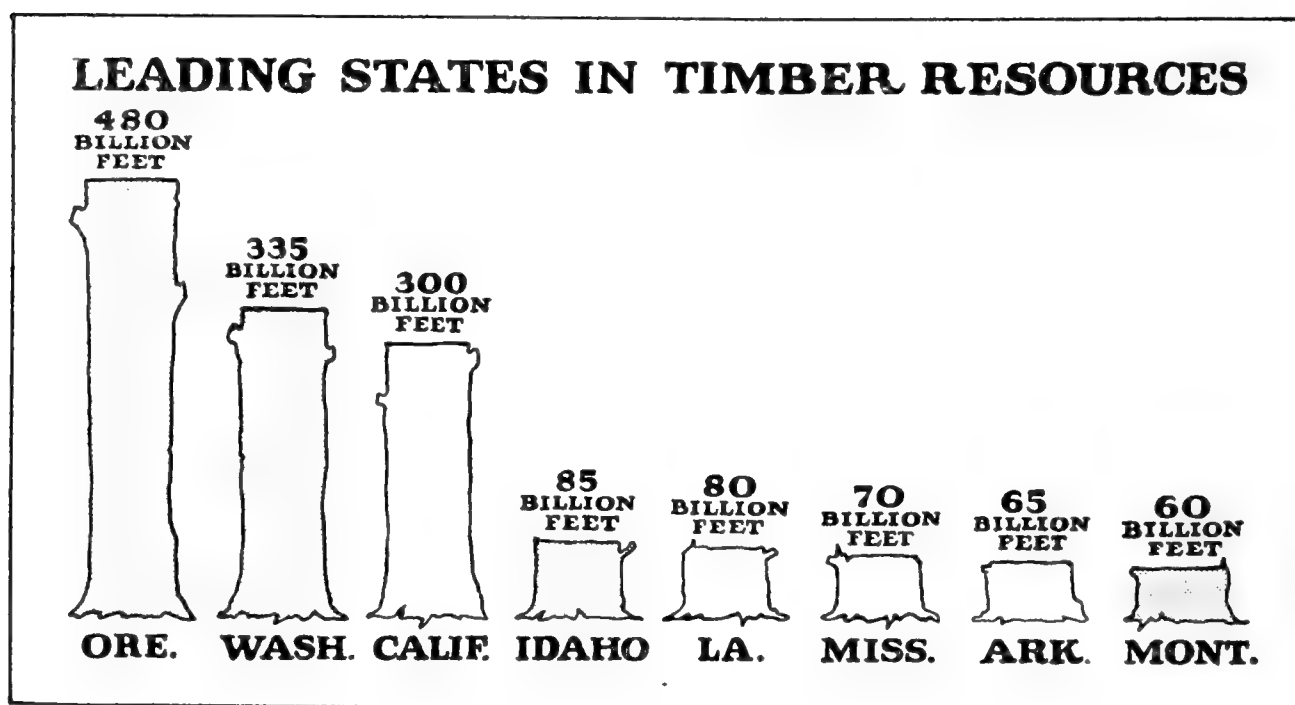
The other two principal varieties of saw timber are the western yellow pine, of which there are about 100 billion feet, and the western white pine, of which there are 20 billion feet.

To the Pacific Northwest the Burlington-Northern Pacific-Great Northern Railroads are dedicated—to its service and development, present and future.



This is the Pacific Northwest—Montana, Wyoming, Idaho, Washington and Oregon. Here a great new empire of industry is building swiftly on a solid foundation of tremendous natural wealth—vast forests, rich mines, surpassing water power, wonderful harbors, great fisheries and a strong, sturdy agriculture. It is growing five times as fast as the nation. Already it has a population of three-and-one-half millions and its rich resources can support ten, fifteen, twenty times that number.

TIMBER BILLIONS



The preponderant strength of states in the Pacific Northwest is shown in this comparison of the principal timber states.

Western yellow pine—sometimes known in the lumber trade as western pine—is found throughout the Pacific Northwest but the heaviest stands are in central and eastern Oregon and in parts of Montana and Idaho. It has long been a wood of recognized value for all sorts of uses. It competes now in the markets of the central states, and to a less degree in the eastern states, with the yellow pines from the southern pine region.

World's Largest White Pine Forest

The largest forest of western white pine in the world is found in Northern Idaho and lapping over somewhat into western Montana. It contains 20 billion feet—three-fourths of the white pine in the United States. It is the occurrence of this species that is responsible for the building up of the lumber industry there. From the standpoint of general utility as well as value, there are few substitutes for white pine.

Western larch, however, is the distinctive tree of western Montana, and with western yellow pine and Douglas fir it makes up the principal commercial forests there. Larch is used principally as a heavy construction timber. On the east side of the Continental Divide in

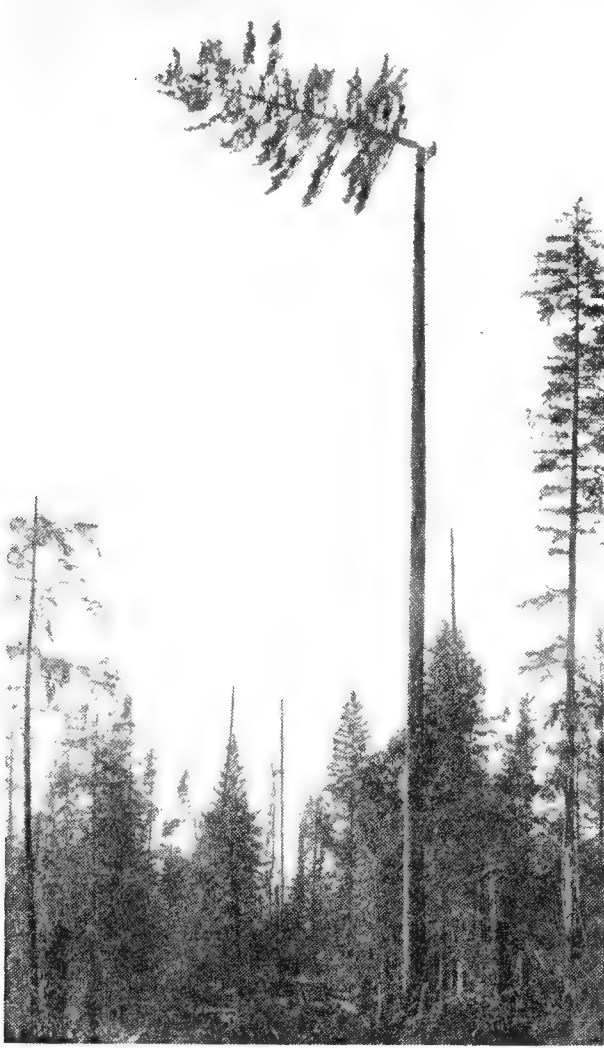
Montana and Wyoming the species are Douglas fir, lodgepole pine, yellow pine, and some species of less importance. Lodgepole pine occasionally grows large enough for saw logs but usually it is best suited for railroad ties and mine timbers. It is largely used for these purposes. The chief forest industry of Wyoming is in the utilization of lodgepole pine for railroad ties.

National Forests Protect Reserves

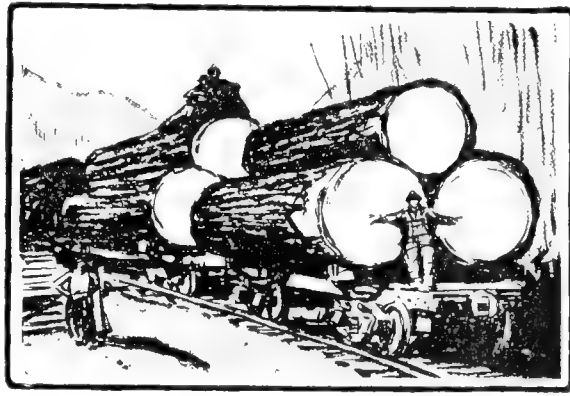
About two-thirds of the great forests of the Pacific Northwest are owned privately, while one-third are owned by the Federal Government in the various National Forests shown on the map in the center of this book. The National Forests were set aside to insure the permanent production of timber, to protect the watersheds of navigable streams, and to preserve water supplies for cities and for irrigation and power. Sales of timber from these forests on long time leases are made by the government to private concerns.



TIMBER BILLIONS



Two hundred feet aloft the daring lumber-jack risks his life to top the "spar" tree, which then becomes the main mast of steel rigging to drag in and load the logs.



MORE TIMBER!

TO the Pacific Northwest, then, America now turns for the product that is the mainstay of her progress. Here, in the years just ahead, must develop the nation's primary source of timber. It is a tremendous responsibility. But the Pacific Northwest can shoulder it—is shouldering it.

More timber, and still more timber! The demand comes from every industry, from every country. The vast amounts used in former years are not enough now. Supplies must be increased. We are in a great “building boom.” New construction has not kept pace with demand since the war and we must make up lost time. The present shortage of dwellings is estimated at more than a million.

And the normal building rate, as well as other demands, must increase with the rapidly growing population. Four hundred thousand houses a year will not be enough. The 150,000,000 mark in population will be reached, the best authorities agree, by 1950. If per capita consumption should not increase we would then require a third more timber every year. In the past, lumber consumption throughout the world has doubled about every 50 years.

In spite of the greater use of wood substitutes, the tendency of requirements for timber to increase instead of diminish is world-wide. This is illustrated by the growth in consumption of the nations which are advanc-

ing industrially, but which are restricted to a moderate use of wood by inadequate home supplies. Even the wood substitutes require immense amounts of wood in their manufacture. Every ton of steel requires the consumption of wood in mining the iron ore and in mining the coal used to make the steel. The coal mines in the country every year use from 250 to 300 million cubic feet of wood. To manufacture cement, coal must be used, and therefore wood; and large amounts of wood are used for forms in concrete construction. Copper cannot be made without consuming wood.

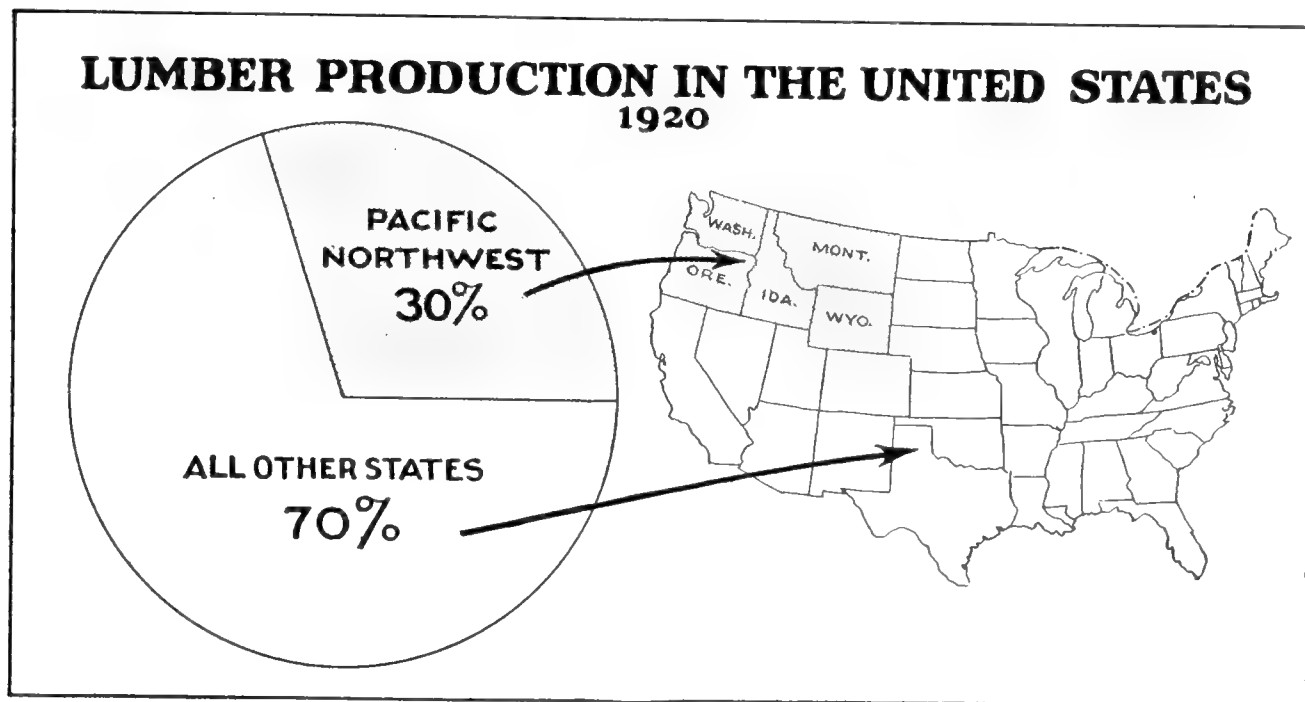
Farmers Are Largest Consumers

All food is produced with the aid of wood in some form, and most of it is shipped in containers made from wood. The farmer who raises our foods and the hides and textiles from which our clothing is made is the largest consumer of wood in the country. He uses nearly one-half the lumber produced. Ninety-eight per cent of our rural dwellings are of wood. It would take 150 billion feet of lumber, or our present annual cut for four years, to equip fully the farms in the United States.

In urban territory 59 to 97 per cent of all houses are of wood. Even if brick is used, a six-room house takes three-fifths the amount of lumber required for frame construction. In building with brick, concrete and steel, much wood goes into scaffolding and frames. Some systems of concrete construction require more wood than would be the case if wood were the permanent material, and require larger timbers to support the concrete in the process of construction than would the building itself if it were all of wood. It is estimated that 15 per cent of the cost of concrete construction is lumber.

This isn't to say that substitutes for wood are not gaining ground. They are. But the tendency has been more to take up the normal expansion in demand for timber due to growth in population and industrial progress than to lessen the actual volume of wood consumption. Furthermore, as wood is being replaced by other

THE PACIFIC NORTHWEST



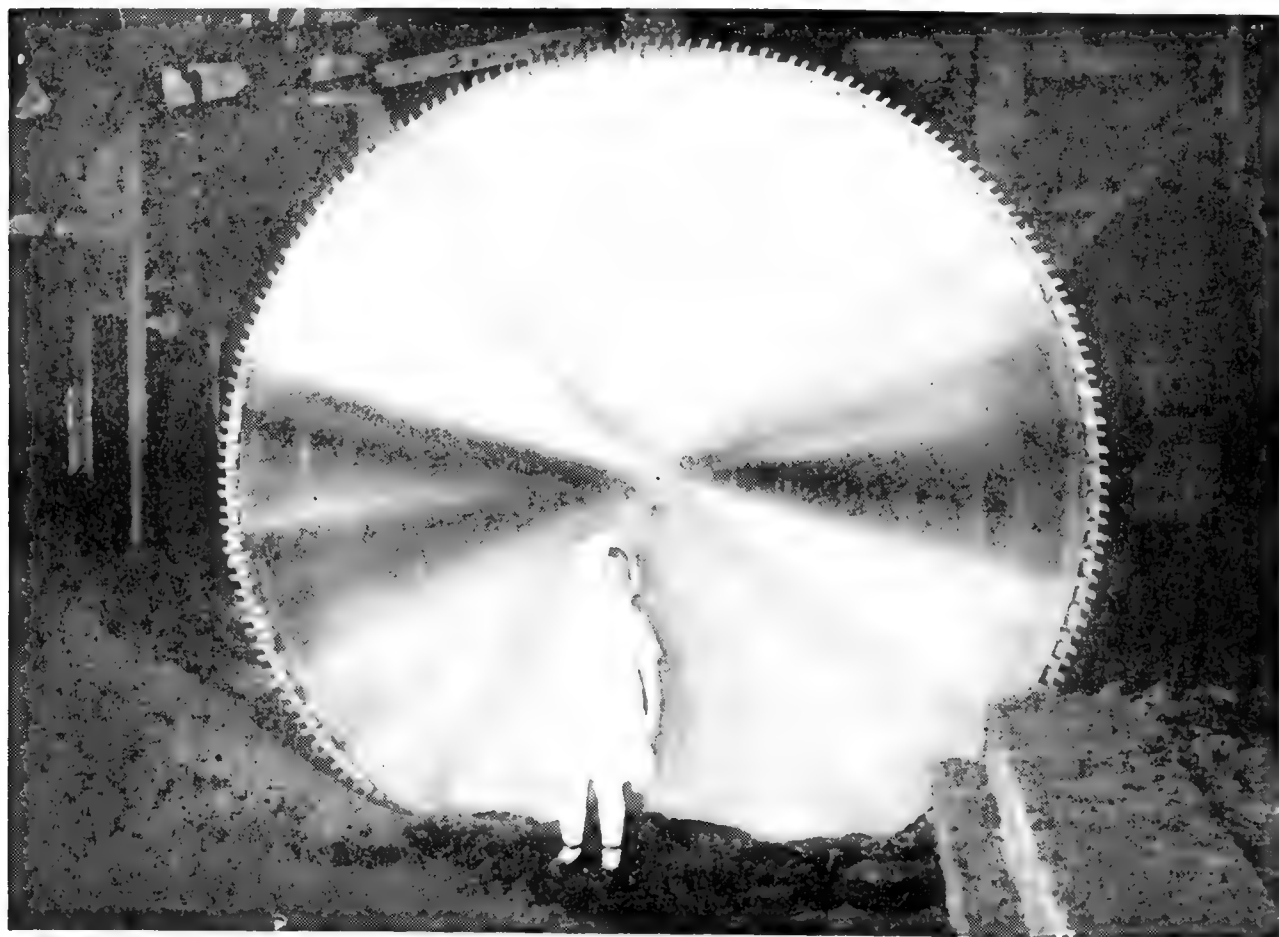
The five states of the Pacific Northwest now produce nearly one-third of the nation's yearly lumber cut.

materials in one field, new uses of wood constantly arise in other fields. One example is the extending use of pulp wood not only for paper products of various kinds but also for fiber containers, wall board, and similar forms of material, and recently even for making actual artificial boards. The chemical use of wood for making various by-products is still in its infancy; the next few years may see the use of wood for the production of alcohol on a large scale to take the place of gasoline. Wood is already used for the manufacture of artificial silk, rope and of carpets and other fabrics. Chemical research is revealing new uses for wood that were not dreamed of a few years ago.

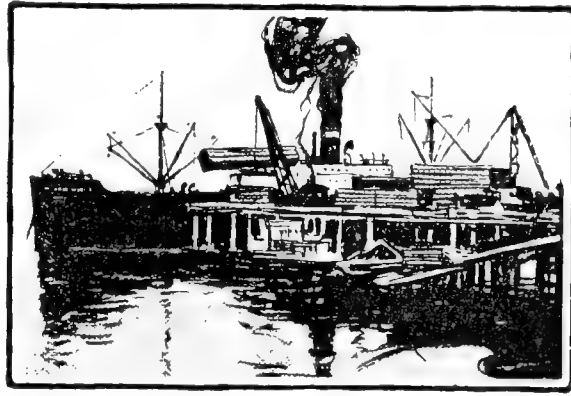
The Age of Wood has not been left behind us—it may well lie ahead of us. In it the Pacific Northwest is destined to play a tremendous role.



TIMBER BILLIONS



The spectacular logging operations are thrilling, but the handling of the giant logs in the mills where heavy machinery and efficient equipment reduces them to lumber, is a no less fascinating chapter of this industrial romance.



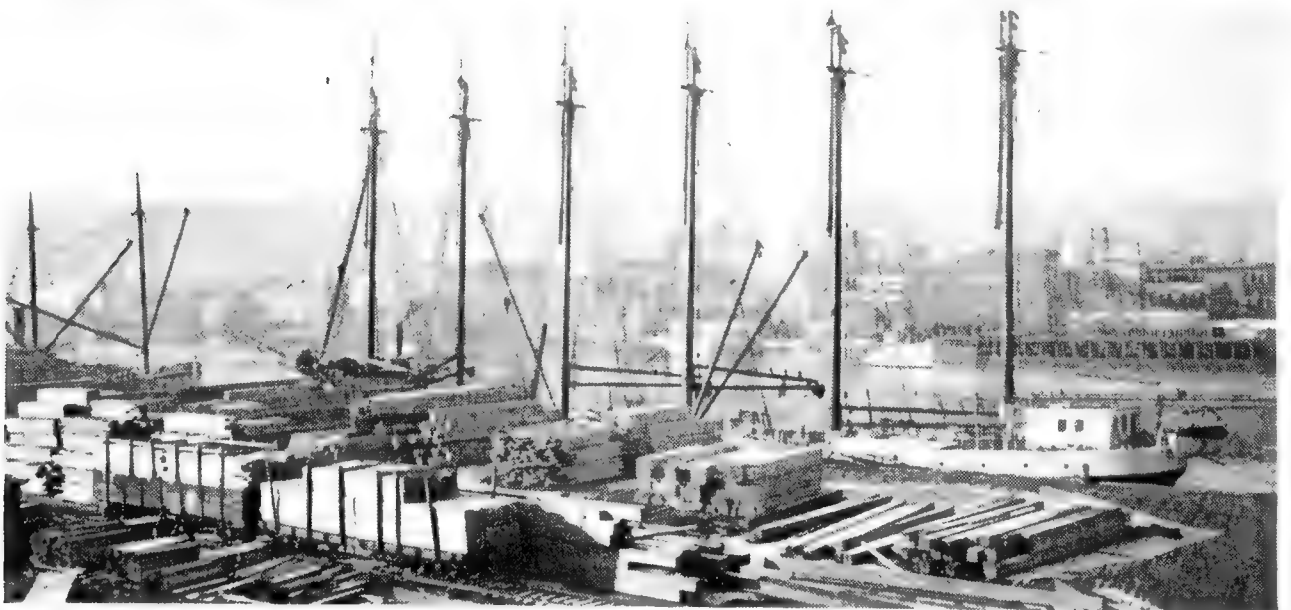
BIG TREES, BIG BUSINESS

ALL this means one thing—a tremendous new business awakening throughout the Pacific Northwest. It is not a boom, although the growth of this country has been rapid and will be more so. But there is no hypodermic kind of stimulation here; no mushroom growth. Its foundation is deeper—as deep-rooted as the great forests on which it rests. Has ever a country builded on a sounder, more substantial basis of natural wealth?

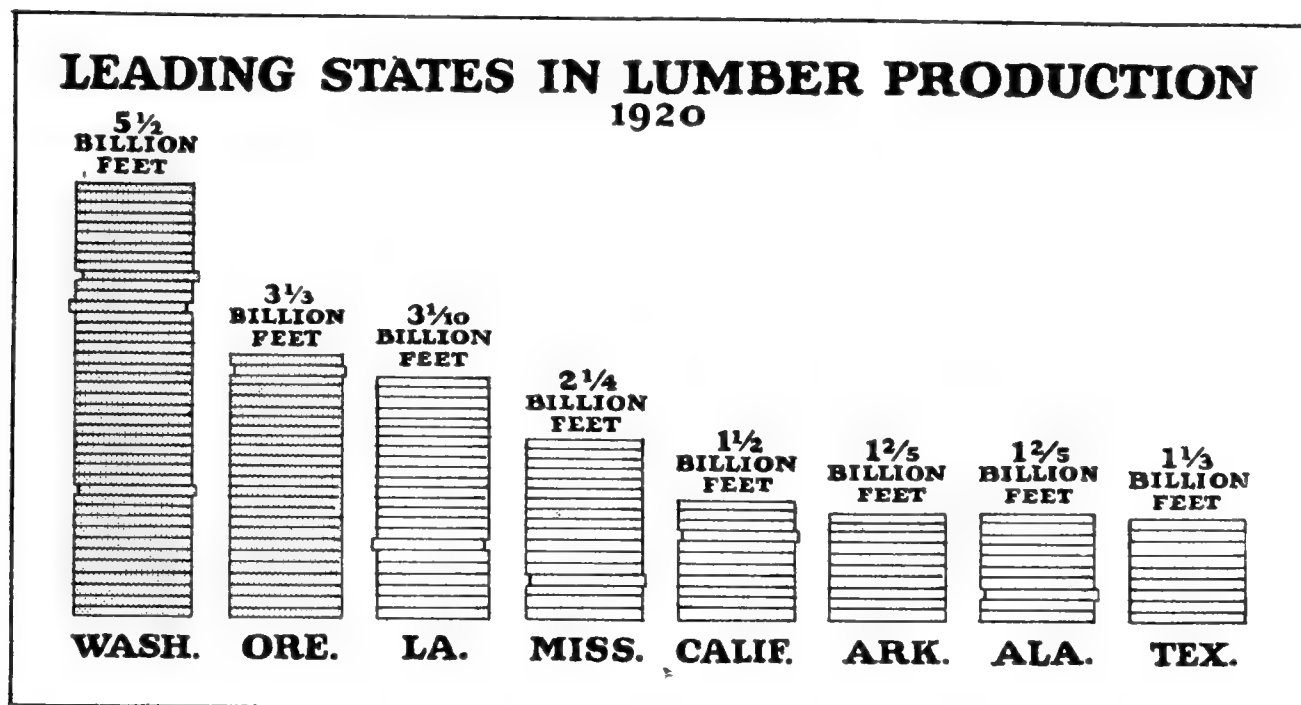
Gradually the Pacific Northwest—Montana, Wyoming, Idaho, Oregon and Washington—must assume control of the nation's great lumber industry. This must come within the next 20 years, according to Government experts. In that time, they declare, production of lumber here must double and possibly treble. That means 150,000 workers will become 300,000 to 450,000. Experts estimate for each employe in the industry four to five more persons in the local supporting population. An increase of 300,000 workers therefore means an increase of 1,500,000 in the population of the Pacific Northwest due to this industry alone. Likewise, the returns from lumber products must increase from \$350,000,000 a year to more than \$1,000,000,000.

That is not all. The increased tonnage to be handled by the shipping industry and the railroads will add more thousands of workers, more millions in wages. In 1919, 10,000 sailors, long-shoremen, stevedores and others

TIMBER BILLIONS



By trainloads and shiploads the great forest crop of the Pacific Northwest, worth \$350,000,000 a year, moves eastward throughout our own country and to foreign lands.



In lumber production Washington and Oregon hold first and second places among the states that lead in the manufacture of this product.

were employed in the water transportation of lumber. More than 15,000 men were required by the railroads to handle the lumber output of Washington and Oregon alone.

Agriculture must grow with more thousands to be fed. Manufacturing will be stimulated, especially in furniture, wood-working, paper pulp, and machinery making. In fact every line of business and every profession must share in the greatly increased demand for equipment and supplies and services of all kinds.

Water Power at Lowest Rates

Development of the vast water power resources of the Pacific Northwest has progressed on a gigantic scale. The largest hydro-electric plants in the world now supply power here for every use at the lowest rates in the country. But new and greater plants will be built—are, in fact, now building in anticipation of the increasing needs in mills and factories.

Activities in the rich mining fields, the oil fields, the vast coal fields of Montana, Idaho and Wyoming, the great port developments of Washington and Oregon will keep pace with lumber. For industrial progress here is

not over a single track. This great new empire of industry is endowed richly with every resource.

And what does it mean to the home builder, to the farmer, to the business man, to the manufacturer in the Pacific Northwest to have the advantages of cheap lumber? Douglas fir vertical grain flooring sold at retail in the Pacific Northwest in August, 1922, for \$60 a thousand. In the Middle West it cost \$88 at the same time, and in New England the price was \$100 a thousand. Likewise, wood fuel, both for home and industrial use, is plentiful and cheap from the forests and factory waste heaps.

The Rising Tide of Prosperity

The Pacific Northwest is advancing along every line of business with steadily increasing momentum. It is a permanent progress. It is over ground that can be held and consolidated because nature has provided the sure footing of a varied inherent wealth that insures balance and stability. The man who now makes himself a part of this movement, who dedicates his energies and his capital to this country's development, will shortly find himself carried forward by a force only partly of his own making to an inevitable prosperity.





SEE THE PACIFIC NORTHWEST

TO the man, no matter what his business may be, who knows opportunity when he finds it, we make a suggestion: Get away from your business for two or three or four weeks and go out and see this new empire of industry in the Pacific Northwest. Make it a vacation with a double value—rest and a first-hand knowledge of a country that will be the center of an extraordinary industrial development during the years just ahead.

Investigate this country for yourself. Appraise its opportunities. You may discover a gold mine. The history of the Pacific Northwest is rich in the experience of men who came to see and stayed to build. To build fortunes not only, but a larger and happier life. But whether he casts his lot directly with this country or finds in it a new field for extending his present business, the man who informs himself with respect to the great industrial resources of the Pacific Northwest and of the huge developments now under way there will enjoy marked business advantages during the next few years.

Go to the Pacific Northwest for a rest and then “see the country.” Get into the big, cool forests of Montana, Wyoming, Idaho, Washington and Oregon and be thrilled and inspired with their wonder and beauty. Watch the logging operations. If there is anything in industry more fascinating, more broadly educative than to view, from the vantage point of a mountain top, the felling and handling of these giant trees in a vast canyon

amphitheater below you will find yourself hard put to name it. Follow these big timbers through the saw mills, the paper mills, and the wood-working factories. You will get a new idea of modern industrial might and bigness.

Here Is Bigness and Greatness

Visit the oil fields in Montana and Wyoming—centers of lively activities; the vast mining regions of Montana, Wyoming, and Idaho; the great port developments and shipping industry in the wonderful harbors of Washington and Oregon; the gigantic water power and irrigation plants—built and building—in Montana, Wyoming, Idaho, Oregon and Washington; the big fishing and canning industry of the coast region; the famous farms and ranches of the Pacific Northwest from Montana and Wyoming on to the coast. If possible, add Alaska to your trip and see another center of expanding industry with a tremendous future.

Our experts can help you plan such a trip so you can make the most of the time you have. Reduced round-trip fares are in effect the year round. All-year excursion tickets, carrying liberal stop-over privileges, good going by one route and returning by an entirely different route, and for return to starting point any time within nine months from date of sale, are on sale daily. During the vacation tour season—usually from May to October *specially reduced* round-trip tickets are on sale daily. These tickets permit diverse routing, allow stop-overs at all points en route, going or returning, and are good for return until October 31. The low cost of this trip will surprise you. One can spend many weeks most profitably in the Pacific Northwest but if his time is limited he may visit the principal sections in from two to four weeks.

Every detail of your trip can be planned for you. Consult the nearest representative of the Burlington, Northern Pacific or Great Northern lines, or write to one of the officials below. There is no charge for this service. For authoritative information regarding indus-

THE PACIFIC NORTHWEST

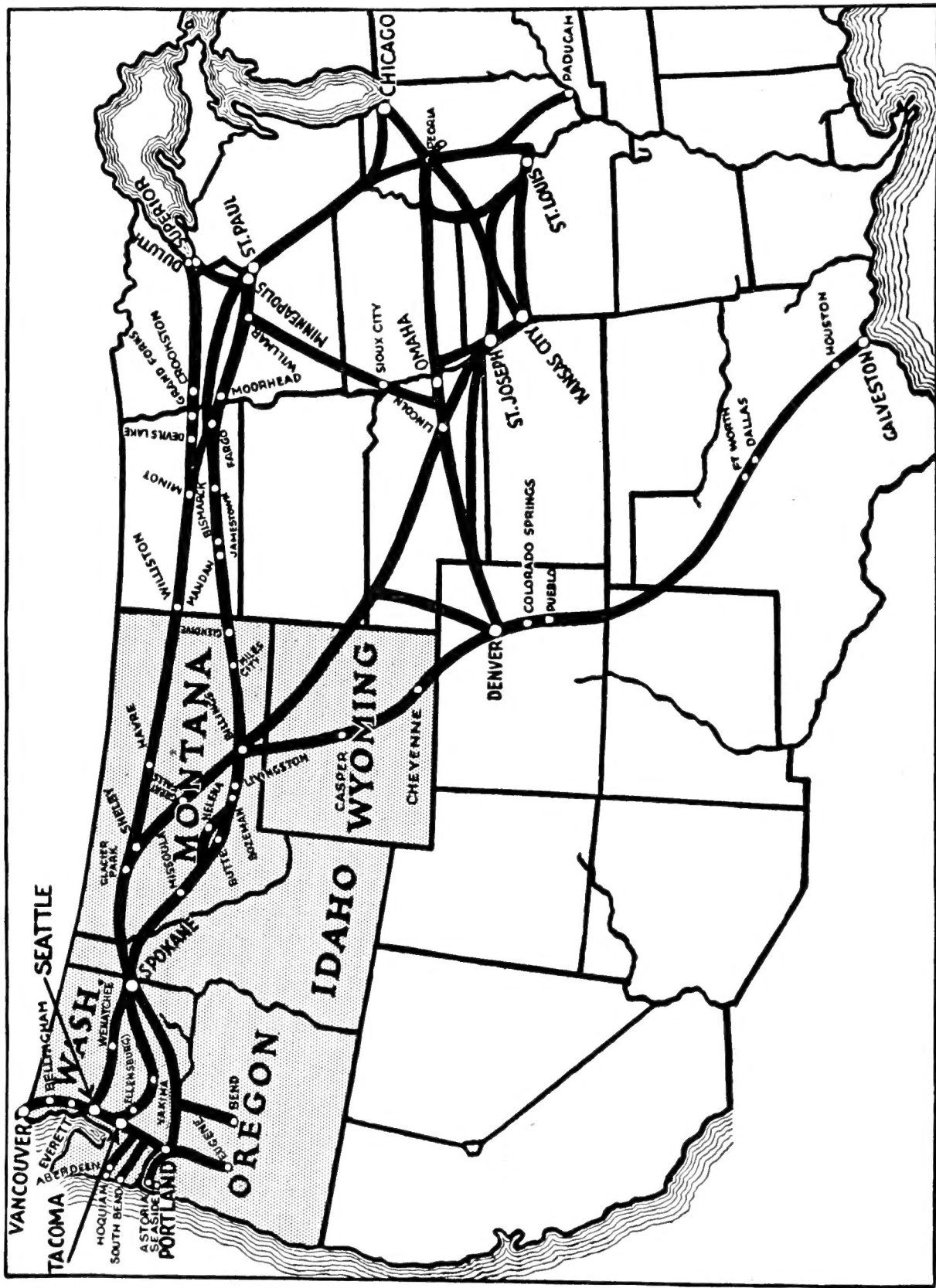
trial resources, farming or business opportunities, or scenic attractions in the Pacific Northwest, write to one of the officials below:

P. S. EUSTIS, *Passenger Traffic Manager*,
Chicago, Burlington & Quincy R. R.,
Chicago, Ill.

A. J. DICKINSON, *Passenger Traffic Manager*,
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